

### REMARKS

Applicants respectfully request further examination and reconsideration in view of the instant response. Claims 1-12, 14-19 and 21-29 remain pending in the case. Claims 1-12, 14-18 and 25-29 are rejected. Claims 19 and 21-24 are allowed.

### ALLOWABLE SUBJECT MATTER

Applicants wish to thank the Examiner for the indication that Claims 19 and 21-24 are allowed.

### 103(a) Rejections - Claims 1-11, 14 and 16-18

The instant Office Actions states that Claims 1-11, 14 and 16-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim (U.S. Patent Application Publication No. 2002/0126752) in view of Panusopone et al. ("Panusopone"; U.S. Patent No. 6,647,061), further in view of Vetro et al. ("Vetro"; U.S. Patent No. 6,671,322). The Applicants have reviewed the cited references and respectfully submit that the embodiments recited in Claims 1-11, 14 and 16-18 are patentable over Kim, Panusopone and Vetro, alone or in combination, for at least the following rationale.

Applicants respectfully direct the Examiner to independent Claim 1 that recites that an embodiment of the present invention is directed to (emphasis added):

A method for reducing the resolution of media data, said method comprising:  
accessing compressed input data for a frame of a plurality of frames, wherein said frame is at a first resolution and

comprises a plurality of macroblocks, wherein said plurality of macroblocks comprises a plurality of subsets of macroblocks that are to be encoded as a single output macroblock;  
selecting a data processing function according to the number of macroblocks in a subset of said plurality of subsets that are characterized as intra-coded, wherein said selecting is performed for each of said plurality of subsets;  
if less than all of said macroblocks in said subset are characterized as intra-coded and if said number of macroblocks in said subset characterized as intra-coded satisfies a threshold, downsampling said subset of macroblocks to generate said output macroblock comprising compressed downsampled data at a second resolution that is reduced relative to said first resolution, wherein said accessing, selecting and downsampling are performed prior to transmitting over a wireless network; and  
transmitting said output macroblock comprising compressed downsampled data to a wireless device over said wireless network.

Independent Claim 8 recites a similar embodiment. Claims 2-7 that depend from independent Claim 1 and Claims 9-11, 14 and 16-18 that depend from independent Claim 8 also include these recitations.

“As reiterated by the Supreme Court in *KSR*, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Obviousness is a question of law based on underlying factual inquiries” including “[a]scertaining the differences between the claimed invention and the prior art” (MPEP 2141). “In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious” (emphasis in original; MPEP 2141.02(I)). Applicants note that “[t]he prior art reference (or references when combined) need not teach or suggest all the claim limitations, however, Office personnel must explain why the difference(s) between the prior art and the claimed

invention would have been obvious to one of ordinary skill in the art” (emphasis added; MPEP 2141(III)).

Moreover, Applicants respectfully submit that “[i]t is improper to combine references where the references teach away from their combination” (emphasis added; MPEP 2145(X)(D)(2); *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)). Applicants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI); *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)). Applicants respectfully submit that there is no motivation to combine the teachings of Kim and Panusopone, because Kim teaches away from the suggested modification.

Applicants respectfully submit that Kim does not teach, describe or suggest “downsampling said subset of macroblocks to generate said output macroblock comprising compressed downsampled data at a second resolution that is reduced relative to said first resolution” (emphasis added) as claimed. In particular, the instant Office Action recites that Kim “is silent in regards to explicit of, compressed down-sampled data; in other words, the down-sampling takes place in effect in the compressed domain” (Office Action mailed March 17, 2008; page 4, lines 11-13).

Applicants understand Kim to disclose a video transcoding apparatus (Abstract). As recited in Kim, “a video transcoding apparatus according to the present invention includes a video decoder receiving to decode a compressed

video bit stream so as to restore a pixel value of an original scene” (emphasis added; [0047]). With reference to Figure 3 of Kim, “a bit stream parsed through the VLD unit 11 of the video decoder 103 passes through the IQ unit 12, IDCT unit 13, adder 14, and motion compensating unit 16 so as to be stored in the external memory 15” (emphasis added; [0088]). In particular, Applicants respectfully submit that Kim discloses that “the video pre-processing unit 300 may receive an MPEG-2 bit stream, which is video-decoded in the video decoder 103” (emphasis added; [0087]).

Applicants respectfully submit that Kim discloses that video pre-processing unit 300 receives a fully decoded MPEG-2 bit stream, and performs all preprocessing on the fully decoded stream. Specifically, Applicants respectfully submit that the downscaling of video pre-processing unit 300 is performed on fully decoded (decompressed) data (see [0116]). Therefore, by specifically disclosing that downscaling is performed on the fully decoded data, Applicants respectfully submit that Kim teaches away from the claimed embodiment.

Applicants respectfully submit that the combination of Kim and Panusopone does not render the claimed embodiments unpatentable, because Panusopone does not overcome the shortcomings of Kim. In particular, Applicants respectfully submit that the combination of Kim and Panusopone does not establish a *prima facie* case of obviousness.

As presented above, Applicants note that “[i]t is improper to combine references where the references teach away from their combination” (emphasis

added; MPEP 2145(X)(D)(2)). “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification” (MPEP 2143.01(V)). “[I]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious” (emphasis added; MPEP § 2143.01(VI)). In particular, “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (MPEP 2141.03(IV)).

Applicants respectfully submit that there is no motivation to combine the teachings of Kim and Panusopone, because the suggested combination would change the principle of operation of Kim. As described above, Applicants understand Kim to specifically disclose that downscaling is performed on the fully decoded data. Applicants respectfully submit that the principle of operation of Kim is to perform downscaling on fully decoded data. As presented above, Kim discloses that “a bit stream parsed through the VLD unit 11 of the video decoder 103 passes through the IQ unit 12, IDCT unit 13, adder 14, and motion compensating unit 16 so as to be stored in the external memory 15” (emphasis added; [0088]). Moreover, Applicants submit that Kim discloses that motion compensating unit 16 performs frame prediction or field prediction on the fully decoded data ([0198]). In particular, Panusopone does not suggest how Kim could be modified to performing downscaling in the compressed domain, as asserted. Therefore, Applicants submit that the principle of

operation of Kim is to perform pre-processing (e.g., downsampling) on fully decoded data.

In contrast, Applicants understand Panusopone to disclose video size conversion and transcoding from MPEG-2 to MPEG-4. However, Applicants respectfully submit that modifying Kim to perform transcoding from MPEG-2 to MPEG-4 as disclosed in Panusopone would change the principle of operation of Kim. Moreover, such a modification would render Kim inoperable for its intended purpose.

Second, Applicants respectfully submit that there is no motivation to combine the teachings of Kim and Vetro, because Kim teaches away from the suggested modification. Applicants understand Vetro to disclose a video transcoder that is operable to partially decode a compressed bitstream (col. 4, lines 36-40). However, Applicants respectfully submit that modifying Kim to perform downscaling on macroblocks having DCT coefficients as disclosed in Vetro would change the principle of operation of Kim. Moreover, such a modification would render Kim inoperable for its intended purpose.

Accordingly, Applicants respectfully submit that the basis for rejecting independent Claims 1 and 8 under 35 U.S.C. § 103(a) is traversed and that, as a result, Claims 1 and 8 are in condition for allowance. Furthermore, Applicants respectfully submit that the basis for rejecting Claims 2-7, 9-11, 14 and 16-18 under 35 U.S.C. § 103(a) is also traversed as these claims depend

from allowable base claims, and consequently Claims 2-7, 9-11, 14 and 16-18 are also in condition for allowance.

103(a) Rejections - Claims 12, 15 and 25-29

The instant Office Actions states that Claims 12, 15 and 25-29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of Panusopone, further in view of Vetro, yet further in view of Brusewitz (U.S. Patent Application Publication No. 2003/0021345). The Applicants have reviewed the cited references and respectfully submit that the embodiments recited in Claims 12, 15 and 25-29 are patentable over Kim, Panusopone, Vetro and Brusewitz, alone or in combination, for at least the following rationale.

Claims 12 and 15 are dependent on independent Claim 8 and include the recitations of independent Claim 8. Hence, by demonstrating that independent Claim 8 is patentable over Kim, Panusopone, Vetro and Brusewitz,, it is also demonstrated that Kim, Panusopone, Vetro and Brusewitz, do not show or suggest the embodiments of Claims 12 and 15.

First, as presented above, Applicants respectfully submit that the combination of Kim, Panusopone and Vetro does not establish a *prima facie* case of obviousness because Kim teaches away from such a combination. Specifically, Applicants respectfully submit that modifying Kim to perform transcoding from MPEG-2 to MPEG-4 as disclosed in Panusopone would change the principle of operation of Kim. Moreover, such a modification would render Kim inoperable for its intended purpose. Moreover, Applicants submit

that modifying Kim to perform downscaling on macroblocks having DCT coefficients as disclosed in Vetro would change the principle of operation of Kim. Moreover, such a modification would render Kim inoperable for its intended purpose.

Second, Applicants respectfully submit that the combination of Kim and Brusewitz does not establish a *prima facie* case of obviousness. Applicants note that Brusewitz is relied on as overcoming the asserted shortcoming of Kim. Applicants respectfully submit that the combination of Kim, Panusopone, Vetro and Brusewitz does not render the claimed embodiments unpatentable, because Brusewitz does not overcome the shortcomings of Kim, Panusopone and Vetro.

Applicants respectfully submit that there is no motivation to combine the teachings of Kim and Brusewitz, because the suggested combination would change the principle of operation of Kim. As described above, Applicants understand Kim to specifically disclose that downscaling is performed on the fully decoded data. Applicants respectfully submit that the principle of operation of Kim is to perform downscaling on fully decoded data. As presented above, Kim discloses that “a bit stream parsed through the VLD unit 11 of the video decoder 103 passes through the IQ unit 12, IDCT unit 13, adder 14, and motion compensating unit 16 so as to be stored in the external memory 15” (emphasis added; [0088]). Moreover, Applicants submit that Kim discloses that motion compensating unit 16 performs frame prediction or field prediction on the fully decoded data ([0198]). Therefore, Applicants submit that the principle of operation of Kim is to perform pre-processing (e.g., downsampling)



on fully decoded data. Furthermore, by specifically disclosing that downscaling is performed on the fully decoded data, Applicants respectfully submit that Kim teaches away from the suggested modification.

In contrast, Applicants understand Brusewitz to disclose downscaling a compressed video stream ([0010]). However, Applicants respectfully submit that modifying Kim to perform downscaling a compressed video stream as disclosed in Brusewitz would change the principle of operation of Kim. Moreover, such a modification would render Kim inoperable for its intended purpose.

Accordingly, Applicants respectfully submit that the basis for rejecting independent Claims 8 and 25 under 35 U.S.C. § 103(a) is traversed and that, as a result, Claims 8 and 25 are in condition for allowance. Furthermore, Applicants respectfully submit that the basis for rejecting Claims 12, 15 and 26-29 under 35 U.S.C. § 103(a) is also traversed as these claims depend from allowable base claims, and consequently Claims 12, 15 and 26-29 are also in condition for allowance.

## CONCLUSION

In light of the above remarks, Applicants respectfully request reconsideration of the rejected claims. Based on the arguments presented above, Applicants respectfully assert that Claims 1-12, 14-18 and 25-29 overcome the rejections of record, and therefore Applicants respectfully solicit allowance of these claims.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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